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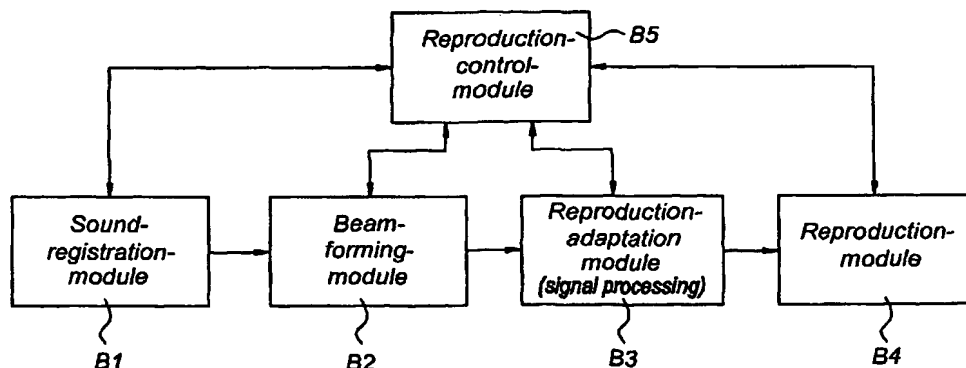
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(54) Title: **SPECTACLE HEARING AID**



(57) Abstract: Hearing aid/spectacles combination (1) having a spectacle frame (1', 2', 3') and a first reproduction unit (5; 6), wherein the spectacle frame has a microphone array (2; 3) in a first spectacle arm (2'; 3'), the microphone array (2; 3) is able to pick up a sound signal and is able to transmit a processed signal, produced on the basis of said sound signal, to the first reproduction unit (5; 6), wherein the hearing aid/spectacles combination (1) comprises at least four basic modules (B1, B2, B3, B4), comprising: a sound registration module (B1) that comprises the microphone array (2; 3); a beam forming module (B2) for forming a direction-dependent processed signal; a reproduction adaptation module (B3) for controlling a reproduction characteristic of the processed sound signal produced by the first reproduction unit (5; 6); a reproduction module (B4) that comprises the first reproduction unit (5; 6); and a reproduction control module (B5) for controlling a reproduction characteristic of the processed sound signal produced by the first reproduction unit (5; 6), wherein the beam forming module (B2) and the reproduction adaptation module (B3) are based on digital techniques.

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# INTERNATIONAL SEARCH REPORT

PCT/NL 03/00647

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04R25/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EP0-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WO 99/21400 A (UNIV DELFT TECH ;BERKHOUT AUGUSTINUS JOHANNES (NL); BOONE MARINUS) 29 April 1999 (1999-04-29) cited in the application</p> <p>the whole document</p> <p>---</p> <p>-/--</p>	<p>1-9, 11-13, 16,17, 19,20, 23-25, 27,28, 30,36</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 1 017 252 A (RESISTANCE TECHNOLOGY INC) 5 July 2000 (2000-07-05)  page 2, column 1, line 5 - line 10 page 3, column 3, line 14 -page 4, column 6, line 14; figures 4,5	1-9, 11-13, 16,17, 19,20, 23-25, 27,28, 30,36
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Y	WO 00/47015 A (ANDERSEN HENNING HOUGAARD ;TOEPHOLM & WESTERMANN (DK); LUDVIGSEN C) 10 August 2000 (2000-08-10) abstract	6,7
Y	US 4 187 413 A (MOSER LUDWIG M) 5 February 1980 (1980-02-05) claims 1,2; figure 1	8
Y	WO 97/14268 A (AUDIOLOGIC INC) 17 April 1997 (1997-04-17)  page 4, line 36 -page 7, line 6; figure 1 page 8, line 27 -page 9, line 10 page 14, line 17 - line 39 claims 1,2,6,13,14	9,11,16, 17,19, 24,25
Y	US 6 104 822 A (LINDEMANN ERIC ET AL) 15 August 2000 (2000-08-15) column 6, line 49 -column 7, line 8 column 8, line 30 - line 49; figure 1A	36
E	WO 2004/016037 A (SONG YING ;CHEN JIAN FENG (SG); SUN HAN WU (SG); YU ZHU LIANG (SG)) 19 February 2004 (2004-02-19) page 8, line 7 - line 18 page 16, line 20 - line 23 page 18, line 29 -page 19, line 27 page 27, line 23 - line 27 page 30, line 22 - line 29 claims 8,14,22; figure 2	38-42
A	US 5 511 128 A (LINDEMANN ERIC) 23 April 1996 (1996-04-23) column 1, line 39 - line 49; claims 1-3	38
A	PATENT ABSTRACTS OF JAPAN vol. 018, no. 608 (E-1633), 18 November 1994 (1994-11-18) & JP 06 233389 A (SONY CORP), 19 August 1994 (1994-08-19) abstract	38

# INTERNATIONAL SEARCH REPORT

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## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:

Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such extent that no meaningful International Search can be carried out, specifically:

- ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

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- ☐ The additional search fees were accompanied by the applicant's protest.  
☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-37

Hoorbril samengesteld uit verschillende modules

2. Claims: 38-44

Hoortoestel met onderdrukking van het stemgeluid van de gebruiker

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